

Center for Intelligent Computer Tools

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The center develops intelligent computer tools for the creation, manipulation, and presentation of digital images.

Background

Established in 1996, this center is focused on the creation of intelligent computer tools including: interactive image segmentation and composition, automated creation of digital libraries, and semi-automated creation of virtual environments from real world images.

Technology Development Progress

The technology development effort is concentrated in the following areas: **intelligent scissors/paint**, which performs image segmentation and composition; **color quantization**, which represents full color images with limited palette and no visual loss; **query by image content**, which looks for all images that are similar; **document recognition**, to recognize and output raw paper documents for posting papers on the web; **family history creation**, an automated system to search for and assemble personal histories; and **virtual environments**, to create a realistic virtual environment from real world images.

This image (with the state capitol nestled in the mountains) was completely computer-generated. A major focus of the center is the creation of photorealistic virtual environments, such as this, that would depict and allow interaction with future Olympic sites.

Highlights and Accomplishments

The intelligent scissors/paint technology has been used to build: a montage of framework for movies, projective snapping and block matching, and for hierarchical collection of intelligent paint. A **digital ancestral library** was built using search engines to automatically match names with databases containing historical vignettes and photographs, to create personal histories of Utah Pioneers. This program was demonstrated at the Sesquicentennial celebration.

Progress in the commercialization effort included the demonstration of the value added benefit of integrated technology to three Utah companies, which are now collaborating with the Center. Two technologies were **licensed** to a major company in California.



State Legislature - Timpanogos Session

Summary Data:

Current

1996-97 Award	\$100,000
Matching Funds	\$533,430
Patents Pending	0
Patents Issued	0
License Agreements	2
Spin-off Companies	0
Companies Assisted	4
Industry Jobs	0
Center Jobs	15

Cumulative

Awards	\$100,000
Matching Funds	\$533,430
Patents Issued	0
License Agreements	2
Spin-off Companies	0